



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,719	09/29/2003	Michael Z. Hu	1142.1	2461
24298	7590	04/06/2007	EXAMINER	
UT-Battelle, LLC Office of Intellectual Property One Bethal Valley Road 4500N, MS-6258 Oak Ridge, TN 37831			NOGUEROLA, ALEXANDER STEPHAN	
			ART UNIT	PAPER NUMBER
			1753	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE		DELIVERY MODE	
3 MONTHS	04/06/2007		PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/673,719	HU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ALEX NOGUEROLA	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 January 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 19 and 20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 19 and 20 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | Paper No(s)/Mail Date. _____.                                     |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____.                         |

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment of January 26, 2007 does not render the application allowable. Applicant asserts that original claims 11 and 12 have been rewritten as new claims 19 and 20. However, claims 19 and 20 are not directed to an electrophoresis media, as are claims 11 and 12. The media, in fact, may be used for the non-elected uses of electrochromatography or catalysis. Also, neither claim 19 nor 20 requires the monolithic material to have "anisotropic properties in regard to retention, interaction and separation of biomolecules," which claim 11 does.

***Status of objections and Rejections pending since the Office action of***

***November 17, 2006***

2. All previous objections and rejections are withdrawn.

***Election/Restrictions***

3. Newly submitted claim 19 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: it is a genus claim that includes a non-elected species and a species that was not presented before in the claims. New claim 19 is similar to original claim 9, which was elected by Applicant. With regard to original claim 9, Applicant had further elected the electrophoresis media species from the list of species including electrophoresis media comprising the solid monolithic material of claim 9, a catalyst comprising the solid monolithic material of claim 9, an ion exchange resin comprising the solid monolithic material of claim 9, and an electronic device comprising the solid monolithic material of claim 9. Thus, claim 19 will not be considered with regard to an anisotropic property suitable for at electrochromatography or catalysis.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 19 is withdrawn from consideration as being directed to a non-elected invention to the extent that it reads on species other than an electrophoresis media comprising the specified monolithic material. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 102***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Wehrspohn et al. (US 2006/0119015) ("Wehrspohn").

Addressing claim 19, Whehrspohn discloses a solid monolithic material comprising aligned uniform fibrils characterized by an average diameter of no more than one micrometer (abstract; paragraphs [0037], [0039], [0070], [0072], and [0073]), the fibrils further characterized by suitability for surface chemistry tailoring for organic grafting (implied since the fiber surfaces can be functionalized "... with specific adhesion, tack and wetting properties" and the fibrils may be made from a wide variety of organic polymers and even biological polymers ([0028] and claims 31 and 74), the fibrils defining gaps therebetween, the gaps characterized by an average diameter of no

Art Unit: 1753

more than one micrometer (implied by Figure 3b, which shows a dense array of numerous aligned fibrils within 20 micrometers; Figure 8c, which shows a dense array of numerous aligned fibrils within 6 micrometers; and Figures 8d, 9a, and 14b, which similarly show a dense array of fibrils), the monolithic material further characterized by a separation matrix in the direction of alignment of the fibrils ([0073] and claim 74 ("in capillary electrophoresis") and Figures 3b, 8c, 11b and 14b, which all show aligned fibrils), the monolithic material further characterized by at least one anisotropic property suitable for electrophoresis separation (implied by [0073] and claim 74 ("in capillary electrophoresis"), [0029] and claims 65 and 66, which discloses that the fibrils can be used for capillary electrophoresis and can have regions of differing material composition, deliberately introduced defects, and "short fiber segments running perpendicular to the fiber axis of the hollow fibers").

Addressing claim 20, for the additional limitation of this claim see ([0028] and claims 31 and 74, which discloses that since the fiber surfaces can be functionalized "... with specific adhesion, tack and wetting properties" and the fibrils may be made from a wide variety of organic polymers and even biological polymers. Paragraph [0026] states, "An advantage of the process according to the invention consists in that therewith both *functionalized* and non-functionalized polymers can be used for the production of hollow fibers.[emphasis added]"

***Final Rejection***

6. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1753

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alex Noguerola  
Primary Examiner  
AU 1753  
April 3, 2007